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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,165	08/28/2001	Graham B. I. Scott	BAYM:002US/MCB	4645

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EXAMINER

CRUZ, MAGDA

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,165

Applicant(s)

SCOTT ET AL.

Examiner

Magda Cruz

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 39-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/21/03 & 6/14/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (i.e. claims 1-38) in the reply filed on 06/28/2004 is acknowledged.
2. Claims 39-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06/28/2004.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 04/21/2003 has being considered by the examiner.
4. The applicant has submitted on 06/14/2002 an Information Disclosure Statement citing nineteen US Patents and sixty Non-Patent Documents. Such a citation is clearly an undue burden upon the Office. Given the extreme volume of references cited and a lack of any statement regarding the relevance or whether references are merely cumulative, the references cited have not been considered, see MPEP 2004.13 and 68 F. Supp. 2d 508 (19), both cited below.
5. MPEP 2004.13

It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents, which have been specifically brought

to applicant's attention and/or are known to be of most significance. See *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 175 USPQ 260 (S.D. Fla. 1972), *aff'd*, 479 F.2d 1338, 178 USPQ 577 (5th Cir. 1973), *cert. denied*, 414 U.S. 874 (1974). But cf. *Molins PLC v. Textron Inc.*, 48 F.3d 1172, 33 USPQ2d 1823 (Fed. Cir. 1995).

6. 68 F. Supp. 2d 508 (19)

Where, however, evidence is lacking that the prior art was intentionally buried among irrelevant or less relevant art, the absence of such intent precludes a finding of inequitable conduct. See Molins PLC, 48 F.3d 1172 (reversing district court and finding that no intent was proven where patentee disclosed references in reexamination proceedings and Examiner reviewed references); Litton Systems, Inc. v. Honeywell, Inc., 1995 WL 366468 (C.D.Cal.1995) (no inequitable conduct proven based upon burying of references). Requiring a strong showing of intent before making a finding of inequitable conduct based upon a burying argument is consistent with the teaching that a patent lawyer "should be encourage to err on the side of inclusion, thereby providing as much prior art with an application as possible." Litton Systems, 1995 WL 366468, *38 (C.D.Cal.1995).

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "capillaries" (claims 10-16) and the dimensions of the "footprint" (claims 36-38) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

Claim Objections

9. Claims 22 and 24 are objected to because of the following informalities:

a. Regarding claim 22, the applicant is respectfully requested to define the term "TTL logic". The examiner believes the term "TTL logic" stands for "transistor-transistor logic". If this is correct, the applicant is requested to acknowledge this. If the term stands for something else, clarification is required.

b. Claim 24 falls with parent claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorfinkel et al.

Gorfinkel et al. (US Patent Number 5,784,157) discloses a pulse-multiline excitation apparatus (Figure 1) for analyzing a sample containing one or more fluorescent species (column 1, lines 4-7), comprising one or more lasers (Laser 1, Laser 2) configured to emit two or more excitation lines (column 5, lines 14-16), each excitation line having a different wavelength (λ_1 , λ_2); a timing circuit (i.e. current driver) coupled to the one or more lasers (Laser 1, Laser 2) and configured to generate the two or more excitation lines sequentially according to a timing program to produce time-correlated fluorescence emission signals from the sample (Figure 6); a non-dispersive

detector (i.e. photodetector) positioned to collect the time-correlated fluorescence emission signals emanating from the sample, and an analyzer (i.e. signal processing means) coupled to the detector (i.e. photodetector) and configured to associate the time-correlated fluorescence emission signals with the timing program to identify constituents of the sample (column 2, lines 10-14); wherein the detector (i.e. photodetector) and the analyzer (i.e. signal processing means) are integral; wherein the two or more excitation lines intersect at the sample (column 2, lines 53-59); wherein the two or more excitation lines are configured so that the two or more excitation lines do not intersect in the sample (column 2, lines 47-52); wherein the two or more excitation lines are configured so that the two or more excitation lines are coaxial (column 2, lines 33-45); comprising at least sixteen excitation lines having sixteen excitation wavelengths (column 7, lines 42-53); wherein said sample is comprised in at least one capillary (Figure 5); wherein said sample is comprised in at least 4 capillaries (Figure 4).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorfinkel et al. in view of Lakowicz et al.

Gorfinkel et al. (US Patent Number 5,784,157) teaches the salient features of the present invention, except one or more prisms in operative relation with the one or more lasers. However, Gorfinkel et al. discloses a technique for modulation of semiconductor lasers (column 5, lines 16-18).

Lakowicz et al. (US Patent Number 5,504,337) discloses one or more prisms in operative relation with the one or more lasers (column 9, lines 42-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the prisms disclosed by Lakowicz et al. in combination with Gorfinkel et al.'s invention, for the purpose of having a delay time that characteristically identifies the fluorescence species (column 9, lines 54-57).

14. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorfinkel et al.

Gorfinkel et al. (US Patent Number 5,784,157) teaches the salient features of the present invention, except an apparatus wherein the sample is comprised in at least 8 capillaries, 16 capillaries, 48 capillaries, 96 capillaries, or 384 capillaries. However, Gorfinkel et al. discloses that the fluorphores (i.e. sample) are to be maintained in an environment useful to those skilled in the art such as capillary systems (column 4, lines 65-66; wherein those skilled in the art determine how many capillaries the system will have). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the capillary system disclosed by Gorfinkel et al. for the purpose of identifying the presence of a fluorophore which is particularly useful in conducting analysis (column 3, lines 39-41).

15. Claims 17-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorfinkel et al. in view of Chao et al.

Gorfinkel et al. (US Patent Number 5,784,157) teaches the salient features of the present invention, except a cuvette; a timing program comprising a delay between the firing of each laser; wherein said pulsed excitation line is controlled by TTL logic; wherein the pulsed excitation lines is controlled by mechanical or electronic means; further comprising a Raman Shifter operable in relation with at least one laser beam; wherein the excitation wavelength provided by each laser is optically matched to the absorption wavelength of each fluorophore; wherein the detector comprises a charged couple device, a photomultiplier tube, a silicon avalanche photodiode, or a silicon PIN detector. However, Gorfinkel et al. discloses a method that requires the fluorophore be in an environment (column 5, lines 53-65) in which it can be freely excited to produce its characteristic fluorescence (column 3, lines 43-45).

Chao et al. (US Patent Number 4,855,930) discloses a cuvette (column 5, lines 65-66); a timing program comprising a delay between the firing of each laser (column 5, lines 46-50); wherein said pulsed excitation line is controlled by TTL logic (column 5, lines 50-52); wherein the pulsed excitation lines is controlled by mechanical or electronic means (column 5, lines 52-54); further comprising a Raman Shifter operable in relation with at least one laser beam (column 6, lines 38-43); wherein the excitation wavelength provided by each laser (26) is optically matched to the absorption wavelength of each fluorophore (column 6, lines 53-57); wherein the detector comprises

a charged couple device, a photomultiplier tube, a silicon avalanche photodiode, or a silicon PIN detector (column 6, lines 2-21).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the cuvette and pulsed excitation controlling means disclosed by Chao et al. in combination with Gorfinkel et al.'s invention, for the purpose of repetitively excite a sample over a period of time and is capable of generating digital data of high precision in an extremely short time (column 4, lines 20-23).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lakowicz et al. (US Patent Number 5,485,530) discloses a method and apparatus for multi-dimensional phase fluorescence lifetime imaging.

Chandler (US Patent Number 6,139,800) teaches interlaced lasers for multiple fluorescence measurement.

Baer (US 2001/0045523 A1) discloses super-resolution in microlithography and fluorescence microscopy.


Hakamata et al. (US Patent Number 6,630,680 B2) teaches a scanner that produces digital data for biochemical analysis in a desired manner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-

2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JUDY NGUYEN
PRIMARY EXAMINER

Magda Cruz
Patent Examiner
September 16, 2004